



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,928	10/22/2001	Steven M. Knowles	10765-015001	8524

7590 07/25/2007  
STEPTOE & JOHNSON LLP  
1330 CONNECTICUT AVENUE, N.W.  
WASHINGTON, DC 20036

EXAMINER
----------

BOCHNA, DAVID

ART UNIT	PAPER NUMBER
----------	--------------

3679

MAIL DATE	DELIVERY MODE
-----------	---------------

07/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

---

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**MAILED**  
**JUL 24 2007**  
**GROUP 3600**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/982,928  
Filing Date: October 22, 2001  
Appellant(s): KNOWLES, STEVEN M.

---

Harold H. Fox  
For Appellant

**EXAMINER'S ANSWER**

Art Unit: 3679

This is in response to the appeal brief filed 10/26/06 appealing from the Office action mailed 5/8/06.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

1,914,736	Coutu	6-1933
1532195	Morrison	4-1925
2971701	Shames et al.	2-1961

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 7, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coutu.

In regard to claim 1, Coutu discloses a flexible joint assembly for conducting a fluid,  
comprising:

a joint assembly inlet 14a;

a joint assembly outlet 14a; and

a fluid flow path between the inlet and the outlet, the fluid flow path including:

a first pivot joint (8 and 13a);

a second pivot joint (8 and 13a), wherein each of the first pivot joint and second pivot

Art Unit: 3679

joint independently comprises a ball and socket joint, wherein each ball and socket joint comprises:

- a socket 3;

- a ball 13a received in the socket;

- a seal 5 between the ball and the socket, and each ball and socket joint further comprises

- a compressing member 10 axially compressing the seal between the ball and the socket and a retaining ring 9 compressing the seal between the ball and the socket; and

- a unitary central fluid conductor 2 fluidly coupling the pivot joints wherein the central

fluid conductor 2 couples (via 8) to a first ball 13a of the first pivot joint and a second ball 13a of the second pivot joint, and each retaining ring 8 compresses the seal by threadably connecting to a surface of the socket 3 adjacent to the central fluid conductor and the ball,

wherein the pivot joints together provide greater than a 60 degree bend between the inlet and the outlet and each pivot joint independently provides greater than a 35 degree bend in the fluid flow path (each pivot 13a appears, from the drawings, to have at least a 45 degree range of motion off of the central axis). The central fluid conductor 2 of Coutu has a length , but Coutu does not disclose the exact length of the conductor.

However, it would have been obvious to one of ordinary skill in the art to make the conductor shorter than 10 centimeters because a change in the size of a prior art device is

Art Unit: 3679

a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

In regard to claim 7, the first pivot joint and the second pivot joint together provide a substantially 90 degree bend between the inlet and outlet (each pivot 13a appears, from the drawings, to have at least a 45 degree range of motion off of the central axis).

In regard to claim 10, where the inlet and outlet include a fitting (threaded interior or exterior 14 or 14a).

In regard to claim 12, each pivot joint independently provides greater than a 40 degree bend in the fluid flow path (each pivot 13a appears, from the drawings, to have at least a 45 degree range of motion off of the central axis).

3. Claims 1, 7, 10, 12 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison in view of Shames et al.

In regard to claim 1, Morrison discloses a flexible joint assembly for conducting a fluid,  
comprising:

- a joint assembly inlet 41;

- a first pivot joint;

- wherein each of the first pivot joint comprises a ball and socket joint, wherein the ball and socket joint comprises:

  - a socket 15;

  - a ball 20 received in the socket;

Art Unit: 3679

a seal 24 between the ball and the socket, and the ball and socket joint further comprising  
a compressing member 26 axially compressing the seal between the ball and the socket  
and a retaining ring 28 compressing the seal between the ball and the socket and a unitary  
central fluid conductor 22.

Morrison does not disclose a second joint assembly connected at the other end of the unitary central fluid conductor 22 that is less than 10 mm long. However, it would have been obvious to one of ordinary skill in the art to make add an identical pivot joint assembly to the second end of 22 because duplicating the components of a prior art device is a design consideration within the skill of the art. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Further evidence that it is common and well known in the art to add a ball at both ends of a unitary central conductor is demonstrated by Shames et al.

Morrison is silent as to the full angle at which the joint can be bent, however Shames et al. also demonstrates that it is common and well known to provide a flexible joint connector with pivot joints that together provide greater than a 60 degree bend between the inlet and the outlet and each pivot joint independently provides greater than a 35 degree bend in the fluid flow path (see fig. 5 of Shames et al.). Therefore it would have been obvious to modify the joint of Morrison to bend more than 40 degrees, because the practice allowing ball and socket joints to bend at least 40 degrees is common and well known in the art, as demonstrated by Shames et al.

The central fluid conductor 22 of Morrison has a length , but Morrison does not disclose the exact length of the conductor. However, it would have been obvious to one

Art Unit: 3679

of ordinary skill in the art to make the conductor shorter than 10 centimeters because a change in the size of a prior art device is a design consideration within the skill of the art.

In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

In regard to claim 7, the first pivot joint and the second pivot joint together provide a substantially 90 degree bend between the inlet and outlet (see fig. 5 of Shames et al.).

In regard to claim 10, where the inlet and outlet include a fitting (threaded interior or exterior 17).

In regard to claim 12, each pivot joint independently provides greater than a 40 degree bend in the fluid flow path (see fig. 5 of Shames et al.).

#### **(10) Response to Argument**

Applicant's arguments with respect to claims 1, 7, 10, 12 and 41 have been considered but are not persuasive.

Applicant argues that Coutu does not teach or suggest a retaining ring compressing a seal by threadably connecting to a surface of the socket adjacent to the central fluid conductor and the ball in claim 1.

The rejection of claims 1, 7, 10 and 12 in view of Coutu is maintained because Coutu discloses a retaining ring 8 compressing a seal 11 by threadably connecting 20 to a surface of the socket 3 adjacent to the central fluid conductor 2 and the ball 13. There is no requirement in the claims that the thread on the retaining ring thread to an interior surface of the socket, and the term "adjacent" is so broad that the thread and socket of Coutu anticipate the claim.



The word “adjacent” is defined by Webster’s Collegiate Dictionary 10<sup>th</sup> Edition as “not distant : nearby”. Coutu discloses the ring 8 compressing the seal 11 by threadably connecting 20 to a surface of the socket 3 not distant or nearby to the central fluid conduct 2 (threads 20 are on the central fluid conductor, and thus could not be any closer) and the ball 13 (the ball 13 is not distant and is nearby the threaded conductor end 20 and is only separated by the seal 11).

It should be noted that the ball 217 in fig. 2c of the present application is spaced from the threaded connecting surface 388 of the conductor 317 by a seal 330 much in the same manner as the ball 13 of Coutu is spaced from the threaded surface 20 of conductor 2 by a seal 11. Therefore, if the Applicant is using the word “adjacent” to describe the spaced apart ball and threaded conductor in the claimed invention, it is reasonable to assume that the similar structure of the applied prior of Coutu can also be described as “adjacent”.

The rejection of claims 1, 7, 10, 12 and 41 in view of Morrison in view of Shames is being maintained because Morrison discloses a retaining ring 28 threadably connected to a surface of the socket 15 adjacent to the fluid connector 22 as ball 20 is part of the fluid connector and flange 27 is adjacent to the connector 22 and/of ball portion 20. Again, for the same reasons stated above, the term “adjacent” is broad enough to be anticipated by the ring 28, socket 15 and fluid connector 22 of Morrison, which are all “adjacent” one another as they are in radial contact with each other and the threaded surface 16 of the socket 15 is “nearby” or “not distant” from the ball portion 20 of the conductor 22.

Art Unit: 3679

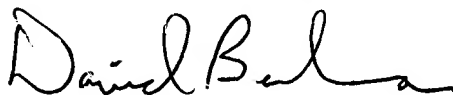
Shames is used only to teach that it would have been obvious to add a second ball to the opposite end of the fluid conductor 22.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "David Bochna".

David Bochna

Conferees:

Daniel Stodola

Handwritten initials "DPS" in black ink.

Aaron Dunwoody

Handwritten initials "AD" in black ink.